DEPARTMENT OF COMMERCE **National Telecommunications and Information Administration** **DEPARTMENT OF AGRICULTURE** **Rural Utilities Service** **[Docket No. 090309298–9299–01]** **American Recovery and Reinvestment Act of 2009 Broadband Initiatives** **AGENCIES: National Telecommunications and Information Administration, U.S. Department of Commerce; Rural Utilities Service, U.S. Department of Agriculture.** **ACTION: Joint request for information and notice of public meetings.**	**Response by:** Vermont Center for Geographic Information (VCGI) **Contact Info:** • Steve Sharp, Senior Project Manager • steves@vcgi.org • 802-882-3006

8. **Broadband Mapping:** The Recovery Act directs NTIA to establish a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial provider or public provider throughout each State.

a. What specific information should the broadband map contain, and should the map provide different types of information to different users (e.g., consumers versus governmental entities)?

The broadband map and geospatial datasets should include the following elements

- **DSL broadband coverage:** It should depict which roads, or sections of roads, with DSL coverage. It should also specify the type of DSL and anticipated speeds.
- **Fiber broadband coverage:** It should depict which roads, or sections of roads, with Fiber coverage.
- **Cable broadband coverage:** It should depict which roads, or sections of roads, with Cable broadband coverage. It should also specify the anticipated speeds.
- **Wireless ISP coverage (WiFi):** Location of all WiFi towers and antennae, including details about frequencies, direction, etc (all elements necessary to generate a propagation map). Propagation maps using consistent propagation analysis methods. It should also specify the signal strength.
- **Wireless voice and data coverage:** Location of all wireless voice/data towers and antennae, including details about frequencies, direction, etc (all elements necessary to generate a propagation map). Propagation maps using consistent propagation analysis methods. It should also specify the signal strength.
- **Availability of mobile services (Internet, voice, data):** Availability along all Federal Aid Highways and Federally designated urban areas as defined by the Census Bureau. It should also specify the signal strength.

All broadband maps/data must be in the public domain, and be fully available to both consumers and governmental entities.

b. At what level of geographic or other granularity should the broadband map provide information on broadband service?

DSL, Fiber, and Cable broadband maps should be down to a street level (street-by-street). WiFi and wireless voice/data service availability should mapped to a street level for all Federal Aid Highways and Federally designated urban areas as defined by the Census Bureau. WiFi and wireless voice/data coverage beyond these roads and areas should be mapping via well establish wireless propagation mapping methods. The current "census track" level geography required by FCC Form 477 is inadequate, especially in rural areas.

The broadband maps must be in GIS-ready format and be suitable for use and meeting accuracy standards suitable for 1:12,000-scale (or better) mapping. The dataset must include road segments coded as to their availability of DSL and/or cable internet, including transmission speeds and levels and types of service. The dataset must also include terrain-corrected transmission areas for fixed-wireless broadband providers (so that areas blocked from service by mountains or hills are shown as not receiving service. The base data source for roads should be the State's best available road data (such as E911). The GIS dataset must be made available in the Geographic Coordinate System (NAD83). A raster product is acceptable as the deliverable for propagation maps (wireless voice/data services), provided the pixel resolution is not greater than 10 meters and the format is either ESRI GRID or GeoTIFF. Raster formats are not acceptable for DSL, cable, and fiber datasets. These must be in vector format. All vector datasets must be in ESRI Shapefile format.

c. What other factors should NTIA take into consideration in fulfilling the requirements of the Broadband Data Improvement Act, Public Law 110–385 (2008)?

The completeness and accuracy of any broadband inventory map is limited by the availability of good data from broadband service providers. Many broadband and telecommunications companies claim that releasing such data would put them at a competitive disadvantage. However, there is little to no evidence backing up their claim. The market always works better with greater transparency. Competition will be enhanced when there is more information in the public marketplace regarding the geographic extent and nature of broadband services. In this case the public interest trumps the private interest (especially if tax payers are funding improvements to broadband service).

The NTIA and the FCC should work collaboratively to modify rules and regulations pertaining to reporting requirements for broadband and telecommunications providers. Companies must be required to submit complete and accurate information, and at a higher level of detailed currently defined in FCC Form 477. Currently, Form 477 requires information at a Census Track level. This level of geography provides insufficient detail in rural areas. The FCC (or NTIA) should conduct random audits of the data to verify that companies are meeting reporting requirements. The

accuracy and completeness of FCC's data will continue to be questionable without annual random audits.

The FCC should require the following information from broadband and telecommunications service providers:

- **DSL broadband coverage:** It should depict which roads, or sections of roads, with DSL coverage. It should also specify the type of DSL and anticipated speeds.
- **Fiber broadband coverage:** It should depict which roads, or sections of roads, with Fiber coverage.
- **Cable broadband coverage:** It should depict which roads, or sections of roads, with Cable broadband coverage. It should also specify the anticipated speeds.
- **Wireless ISP coverage (WiFi):** Location of all WiFi towers and antennae, including details about frequencies, direction, etc (all elements necessary to generate a propagation map).
- **Wireless voice and data coverage:** Location of all wireless voice/data towers and antennae, including details about frequencies, direction, etc (all elements necessary to generate a propagation map).

d. Are there State or other mapping programs that provide models for the statewide inventory grants?

e. Specifically what information should states collect as conditions of receiving statewide inventory grants?

Everything identified in the response to question 8.a. above.

f. What technical specifications should be required of State grantees to ensure that statewide inventory maps can be efficiently rolled up into a searchable national broadband database to be made available on NTIA's Web site no later than February 2011?

The NTIA should develop a consistent GIS data model that can store the information outlined in our response to question 8.a.

g. Should other conditions attach to statewide inventory grants?

All broadband inventory data must be in a standardize geospatial format and be available in the public domain.

h. What information, other than statewide inventory information, should populate the comprehensive nationwide map?

Basic basemap information.

i. The Recovery Act and the Broadband Data Improvement Act (BDIA) imposes duties on both NTIA and FCC concerning the collection of broadband data. Given the statutory requirements of the Recovery Act and the BDIA, how should NTIA and FCC best work together to meet these requirements?

The NTIA and the FCC should work collaboratively to modify rules and regulations pertaining to reporting requirements for broadband and telecommunications providers. Companies must be required to submit complete and accurate information, and at a higher level of detailed currently defined in FCC Form 477. Refer to 8.c. for additional comments.